

**INFORMATION
DISCLOSURE
STATEMENT**

SHEET 1 OF 4

Complete if known

Application Number: 10/017,471

Filing Date: October 23, 2001

First Named Inventor: Eriko Takano, et al.

Group Art Unit: 1652

Examiner Name: Kathleen M. Kerr

Attorney Docket Number: 0380-P02329US1

UNITED STATES PATENT DOCUMENTS

EXAMINER'S INITIALS	CITE NO.	PATENT NUMBER	ISSUE DATE MM-DD-YYYY	FIRST NAMED INVENTOR

FOREIGN PATENT DOCUMENTS

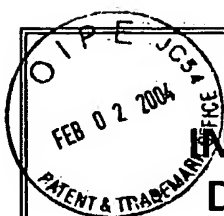
EXAMINER'S INITIALS	CITE NO.	DOCUMENT NUMBER	COUNTRY OR REGION	DATE OF PUBLICATION MM-DD-YYYY	FIRST NAMED INVENTOR OR APPLICANT

OTHER PRIOR ART - NON-PATENT DOCUMENTS

EXAMINER'S INITIALS	CITE NO.	Include name of the author (in Capital Letters), title of the article (when appropriate), title of the item(book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published
KK	C1	Ando, N., et al., "Involvement of AfsA in A-factor Biosynthesis as a Key Enzyme", J. Antibiot. 50: 847-852, (1997).
KK	C2	Bate, N., et al., "Multiple regulatory genes in the tylosin biosynthetic cluster of Streptomyces fradiae", Chemistry & Biology, 6: 617-624, (1999).
	C3	Chater, K.F., et al., "Regulation of bacterial antibiotic production", In Biotechnology, volume 7: Products of Secondary Metabolism, Kleinkauf, H. and von Döhren, H. (eds.), Weinheim, VCH, Germany, pp 57-105. No date
KK	C4	Fouces, R., et al., "The tylosin biosynthetic cluster from Streptomyces fradiae: genetic organization of the left region", Microbiology, 145: 855-868, (1999).
KK	C5	Gramajo, H.C., et al., "Stationary-phase production of the antibiotic actinorhodin in Streptomyces coelicolor A3(2) is transcriptionally regulated", Mol. Microbiol., 7: 837-845, (1993).
KK	C6	Hara, O., et al., "Genetic Analysis of A-factor Synthesis in Streptomyces coelicolor A3(2) and Streptomyces griseus", J. Gen. Microbiol., 129: 2939-2944, (1983).
KK	C7	Hopwood, D.A., et al., "Genetics of Antibiotic Production in Streptomyces coelicolor A3(2), a Model Streptomyccete", In: Genetics and Biochemistry of Antibiotic Production, Vining, L. (ed), Butterworth-Heinemann, Newton, MA, USA, pp 65-102 (1985).

EXAMINER'S SIGNATURE		DATE CONSIDERED	3 / 16 / 04
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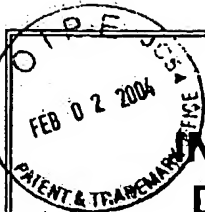
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KK	C8	Hourinouchi, S., and Beppu, T., Autoregulators. In: Genetics and Biochemistry of Antibiotic Production. Vining, L. (ed) Butterworth-Heinemann, Newton, MA, USA. pp. 103-119, (1994).
KK	C9	Horinouchi, S., et al., "The Cloned Streptomyces Bikiniensis A-Factor Determinant", J. Antibiot., 36: 636-641, (1985).
KK	C10	Horinouchi, S., et al., "Nucleotide Sequence and Transcriptional Analysis of the Streptomyces griseus Gene (afsA) Responsible for A-Factor Biosynthesis", J. Bacteriol., 171: 1206-1210, (1989).
KK	C11	Ikeda, H., et al., "Organization of the biosynthetic gene cluster for the polyketide anthelmintic macrolide avermectin in Streptomyces avermitilis", Proc. Natl. Acad. Sci. 17: 9509-9514, (1999).
KK	C12	Kieser, H.M., et al., "A Combined Genetic and Physical Map of the Streptomyces coelicolor A3(2) Chromosome", J. Bacteriol. 174: 5496-5507, (1992).
KK	C13	Kim, H.S., et al., "Identification of binding protein of Virginiae butanolide C, an autoregulator in Virginiamycin production, from Streptomyces Virginiae", J. Antibiot., 42: 769-778, (1989).
KK	C14	Kinoshita, H., et al., "Butyrolactone Autoregulator Receptor Protein (BarA) as a Transcriptional Regulator in Streptomyces virginiae", J. Bacteriol. 179: 6989-93, (1997).
KK	C15	Kitani, S., et al., "In vitro analysis of the butyrolactone autoregulator receptor protein (FarA) of Streptomyces lavendulae FRI-5 reveals that FarA as a DNA-binding transcriptional regulator that controls its own synthesis", J. Bacteriol., 181: 5081-5084, (1999).
KK	C16	Lezhava, A., et al., "Chromosomal deletions in Streptomyces griseus that remove the afsA locus", Mol. Gen. Genet. 253: 478-483, (1997).
KK	C17	Miyake, K., et al., "The A-factor-binding protein of Streptomyces griseus negatively controls Streptomycin production and sporulation", J. Bacteriol., 172: 3003-3008, (1990).
KK	C18	Mori, K., "Revision of the absolute configuration of A-factor", Tetrahedron Lett. 39: 3107-3109, (1983).
KK	C19	Nakano, H., et al., "Gene replacement analysis of the Streptomyces virginiae barA gene encoding the butyrolactone autoregulator receptor reveals that barA acts as a repressor in Virginiamycin biosynthesis", J. Bacteriol., 180: 3317-3322, (1998).

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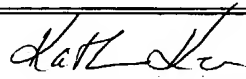
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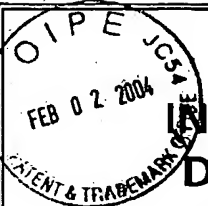
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KK	C20	Nihira, T., et al., "Structure-activity relationships of Virginiae butanolide C, an inducer of Virginiamycin production in Streptomyces Virginiae", J. Antibiot., 41: 1828-1837, (1988).
KK	C21	Okamoto, S., et al., "Virginiae butanolide binding protein from Streptomyces virginiae", J. Biol. Chem., 270: 12319-12326, (1995).
KK	C22	Onaka, H., et al., "Cloning and characterization of the A-Factor receptor gene from Streptomyces griseus", J. Bacteriol., 177: 6083-6092, (1995).
KK	C23	^{Onaka} Onaka , H., et al., "DNA-binding activity of the A-factor receptor protein and its recognition DNA sequences", Mol. Microbiol., 24: 991-1000, (1997).
KK	C24	Onaka, H., et al., "Involvement of two A-factor receptor homologues in Streptomyces coelicolor A3(2) in the regulation of secondary metabolism and morphogenesis", Mol. Microbiol. 28: 743-753, (1998).
KK	C25	Ohnishi, Y., et al., "The A-factor regulatory cascade leading to streptomycin biosynthesis in Streptomyces griseus: identification of a target gene of the A-factor receptor", Mol. Microbiol., 34: 102-111, (1999).
KK	C26	Redenbach, M., et al., "A set of ordered cosmids and a detailed genetic and physical map for the 8 Mb Streptomyces coelicolor A3(2) chromosome", Mol. Microbiol., 21: 77-95, (1996).
KK	C27	Ruengjitchachawalya, M., et al., "Purification and characterization of the IM-2-binding protein from Streptomyces sp. strain FRI-5", J. Bacteriol., 177: 551-557, (1995).
KK	C28	Sato, K., et al., "Isolation and structure of a new butyrolactone autoregulator from Streptomyces sp. FRI-5", J. Ferment Bioeng., 68: 170-173, (1989).
KK	C29	Takano, E., et al., "Transcriptional regulation of the redD transcriptional activator gene accounts for growth-phase-dependent production of the antibiotic undecylprodigiosin in Streptomyces coelicolor A3(2)", Mol. Microbiol., 6: 2729-2804, (1992).
KK	C30	Takano, E., et al., "Purification and structural determination of SCB1, a γ -butyrolactone that elicits antibiotic production in Streptomyces coelicolor A3(2)", J. Biol. Chem., 275: 11010-11016, (2000).
KK	C31	Waki, M., et al., "Cloning and characterization of the gene (farA) encoding the receptor for an extracellular regulatory factor (IM-2) from Streptomyces sp. strain FRI-5", J. Bacteriol., 179(16): 5131-5137, (1997).

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KL	C32	Yamada, Y., "Autoregulatory factors and regulation of antibiotic production in Streptomyces", In Microbial signalling and communication. England, R., Hobbs, G., Bainton, N., and Roberts, D. McL. (eds.) Cambridge: the Society for General Microbiology, pp. 177-196, (1999).
KL	C33	Yamada, Y., et al., "The structure of inducing factors for Virginiamycin production in Streptomyces virginiae", J. Antibiot., 40: 496-504, (1987).
	C34	EMBL AJ 007731 incomplete citation
KL	C35	Passantio, R., et al., "Additional copies of the actII regulatory gene induce actinorhodin production in pleiotropic bld mutants of Streptomyces coelicolor A3(2)", J. Gen. Microbiol., 137: 2059-2064, (1991).
KL	C36	Aigle, B., et al., "A single amino acid substitution in region 1.2 of the principal σ factor of Streptomyces coelicolor A3(2) results in pleiotropic loss of antibiotic production", Mol. Microbiol., 37 (5): 995-1004 (2000).
KL	C37	Sugiyama, M., et al., "Site-directed mutagenesis of the A-factor receptor protein: Val-41 important for DNA-binding and Trp-119 important for ligand-binding", Gene, 222(1): 133-44, (1998).

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